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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,040	06/23/2003	Trevor Merry	13587.37	9519

41081 7590 08/28/2006
THOMAS SEAN ARMSTRONG
46806 PLANTERS COURT
LEXINGTON PARK, MD 20653

EXAMINER

LIEW, ALEX KOK SOON

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/602,040	Applicant(s) MERRY ET AL.	
	Examiner Alex Liew	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 and 35-47 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The examiner cannot find any applicable prior art or suggestion wherein adjustment means adjusting a wavelength of light being used to detect said sub-groups within the image biometric data.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 33 and 38 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Berson (US pat no 5,469,506) in view of Eshera (US pat no 5,613,014).

With regards to claim 38, Berson discloses a method of matching an article of manufacture with a specific person, the method comprising:

- a. detecting a metric applied to said article, said metric being applied to a specific area of said article (metric is defined as some set of data which can be automatically compared to the scanned biometric; metric may be a recorded digital image of the biometric or a set of characteristics or measurements which can be repeated on the scanned biometric and compared with the recorded set, see col. 1 lines 39 – 46 and see col. 3 lines 41 – 49 – scanning and detecting the sub-fields in the card, which contains biometric information),
- b. processing said metric to result in a biometric representation useful for comparison with a data set associated with said person (see fig 6 – 102 to 108 – where the system processes the metric information in each partition field by decrypting, see also col. 5 lines 57 – 67 to col. 6 lines 1 – 6),
- c. acquiring said data set associated with said person (see citation from part b),
- d. comparing said data set and said representation to determine a likelihood of a match between said data set and said representation (see fig 6 – 110) and
- e. if a likelihood exceeds a predetermined threshold, associating said article with said person (see col. 6 lines 8 – 14 – for a match to occur there must be a threshold of similarity or correlation set).

Berson fails to disclose detecting a graphical constellation of marks. Eshera discloses detecting a graphical constellation (see col. 4 lines 6 – 14 – detecting step is where it finds the minutia points for distance comparison) and using the distance between minutia points to determine match compared against a set of graphical constellation stored in a database (see fig 2 – 16 and 24 extracts graphical representation of the

fingerprint, representation is shown in fig 3a, then calculates the distance between each minutia to be compared with the database). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include detecting a graphical constellation of marks instead of matching entire biometric image because it allows the database to only need to save the values of the distance between neighboring minutia to avoid saving the entire biometric as a template (which takes up more storage space) to save storage space in the computer database.

With regards to claim 39, Berson further discloses a method of claim 38, wherein step a, includes illuminating said specific area with light having a specified wavelength (see col. 3 lines 51 – 56 – the light wavelengths emitted from emitting diodes belongs to the visible light spectrum).

With regards to claim 40, Berson discloses a method according to claim 38, wherein step b includes optically scanning said metric detected in step a (see fig 1 – 22 and 26 – are optical scanning device). The advantage using graphical constellation over biometric template matching is explain in claim 38.

With regards to claim 41, Berson discloses all of the claim elements / features as discussed above in rejection for claim 38 and incorporated herein by reference, but fails to disclose visual transformation process of constellation marks. Eshera discloses a method according to claim 41 wherein includes applying a visual transformation process

to said constellation of marks to recover original positions of said constellation of marks (see fig 5a – d – the coordinate system applied to fig 5a is being rotated, therefore the positions of each minutia points are change each time, it will rotated until it back to it's original position, see col. 13 lines 9 – 11 – when the minutia points returns to quadrant I, the transformation is the change in quadrant for each minutia points). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include visual transformation process of constellation marks because the coordinates transformation are to make distance calculation more simplified, for example assigning two minutia points on the same axis.

With regards to claim 42, see the rationale and rejection for claim 42. In addition, the rotation of the coordinate axis reads on the mapping of the constellation.

With regards to claim 43, Berson discloses all of the claim elements / features as discussed above in rejection for claim 38 and incorporated herein by reference, but does not explicitly disclose accessing a database and retrieving said data set. Eshera discloses a method of claim 38 wherein step c includes accessing a database and retrieving said data set (see fig 2 – 22). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include retrieving said data set because to allow the system to compare the scanned graphical biometric constellation with the data to allow or denied access to a user at an access location.

With regards to claim 44, see the rationale and rejection for claim 43. The data acquire from fig 2 – 22 of Eshera are biometric information of the fingerprint.

With regards to claim 45, see the rationale for claim 38. In addition, the predefine area is the area which surrounds the fingerprint and the constellation of mark (minutia) are generated from the features of the each individual, such as location of ridges, valleys and end-ridge. The article, card shown in fig 1 with multiple fields of biometric information, shown in Berson must be manufacture at the to create the physical card.

With regards to claim 46, see the rationale and rejection for claim 45.

With regards to claim 1, see the rationale and rejection for claim 45.

With regards to claim 2, see the rationale and rejection for claim 45.

With regards to claim 3, Berson discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose group of marks are derived from characteristic of an eye of said person. Berson suggests biometric information can be derived from the characteristic of an eye of said person (see col. 4 lines 35 – 37) onto the sub-fields of the card (see fig 1 - 18). For example, the minutia points can be place on the center of the iris and a few minutia

points on the perimeter of the eye, to form a star type minutia formation group for distance calculation between each minutia points as disclosed in Eshera (see fig 4a and col. 9 lines 10 – 16 – when each star is form the system calculates the distance between the center node to each of the neighboring node, clearly, since an eye on face has a plurality of feature landmarks, see MPEP 2144.03 – official notice, these type of biometrics would have been alternatives to the fingerprint of Eshera because they would function the same and produce the same type of results); these distance information can be use to compare to a database of set database for individual identification. As discussed in claim 38, one would use graphical constellation because it allows the database to only need to save the values of the distance between neighboring minutia to avoid saving the entire biometric as a template (which takes up more storage space) to save storage space in the computer database.

With regards to claim 4, Berson discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose group of marks are derived from characteristic of an face of said person. Berson suggests biometric information can be derived from the characteristic of a face of said person (see col. 4 lines 35 – 37) onto the sub-fields of the card (see fig 1 - 18). For example, the center minutia point can be place on the nose and a few minutia points place on the eye, cheek, mouth and ears onto the image of the individual's face, to form a star type minutia formation for distance calculation between each minutia points as disclosed in Eshera (see discussion from claim 3). As discussed in claim 38,

Art Unit: 2624

one would use graphical constellation because it allows the database to only need to save the values of the distance between neighboring minutia to avoid saving the entire biometric as a template (which takes up more storage space) to save storage space in the computer database.

With regards to claim 5, see the rationale for claim 3. In addition, the minutia points in Eshera are all unobtrusive.

With regards to claim 6, see the rationale and rejection for claim 40.

With regards to claim 7, see the rationale and rejection for claim 4.

With regards to claim 8, see the rationale and rejection for claim 38. In addition, Eshera teach calculating Euclidian distance of two minutia points within the group of minutia points on a single fingerprint (see col. 8 lines 65 – 67). Each of the pair minutia points is read as a sub group of marks. Each pair of minutia points is derived from different sections of the image of the individual finger. See the motivation for claim 38, for using minutia points.

With regards to claim 9, see the rationale and rejection for claim 8.

With regards to claim 10, see the rationale and rejection for claims 3 and 8.

With regards to claim 11, see the rationale and rejection for claims 4 and 8.

With regards to claim 12, see the rationale and rejection for claim 40. In addition, the card in Berson includes delimiting marks, shown in fig 1 – 18D and 20D, to separately detect the different sub fields within the card.

With regards to claim 13, see the rationale for claim 39. In addition, light-emitting diodes belong to a range of wavelengths (not just one wavelength value) of visible light on the light spectrum.

With regards to claim 14, see the rationale and rejection for claim 12.

With regards to claim 15, see the rationale and rejection for claim 38. In addition, the card disclose by Berson, in fig 1, have several sub-fields of different sizes.

With regards to claim 16, see the rationale and rejection for claim 38. In addition, the card disclosed by Berson, in fig 1, have several sub-fields with various shapes such as rectangles (fig 1 – 18) and square (shaded portion of the card).

With regards to claim 17, see the rationale and rejection for claim 38. The minutia points in Eshera are placed over the image data of the fingers (see fig 1a and b).

With regards to claim 18, see the rationale and rejection for claim 41.

With regards to claim 19, see the rationale and rejection for claim 38. The minutia points are placed on top of fingerprint, the fingerprint area being the pre-define area, as disclosed Eshera.

With regards to claim 20, see the rationale and rejection for claim 17. The data in the predefined area is read as the image data of the fingerprint.

With regards to claim 21, see the rationale and rejection for claim 38. In addition, there are marks printed on the card are biometric data pixels of the individual.

With regards to claim 22, Berson and Eshera discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose group of marks is embossed on said article. However, embossing data on to an article (such as a card, ID card or credit card) is well known in the art (see MPEP 2144.03 official notice). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include group of marks is embossed on said article because to prevent smudging and swearing of ink on the card, so life of the card will be longer.

With regards to claim 23, see the rationale and rejection for claim 22.

With regards to claims 24 – 26, see the rationale and rejection for claim 38.

With regards to claim 27, see the rationale and rejection for claim 3.

With regards to claim 28, see the rationale and rejection for claim 4.

With regards to claims 29 – 31, see the rationale and rejection for claim 7.

With regards to claim 32, see the rationale and rejection for claim 8.

With regards to claim 33, see the rationale and rejection for claim 40.

With regards to claim 35 – 37, see the rationale and rejection for claim 41. In addition, Although, Eshera does not explicitly disclose a mathematical formula for the coordinate transformation, however, the coordinate transformation requires a formula to be applied to each point (minutia) in the new coordinate system. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include a Mathematical formula because to determine the new coordinates (vertical and

horizontal position) of each minutia to help the user calculate the distance for each point using the distance for formula.

3. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Berson ('506) in view of Eshera ('014) as applied to claim 1 further in view of Tuceryan (US pat no 6,044,168). Berson and Eshera disclose all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose marks is applied to said article by three dimensional marking means. Tuceryan discloses an article of manufacture according to claim 1 wherein said group of marks is applied to image by three-dimensional making means (see col. 4 lines 62 – 65 and fig 7). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include marks is applied to said means by three dimensional marking means because to obtain the shape of the biometric data, so more details are use to help the authentication process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone

Art Unit: 2624

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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8/9/06



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